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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,520	12/09/2003	Brian Paul Gaucher	YOR920030232US1 (8728-630)	3725
46069	7590	09/22/2006	EXAMINER ALEMU, EPHREM	
F. CHAU & ASSOCIATES, LLC 130 WOODBURY ROAD WOODBURY, NY 11797			ART UNIT 2821	
PAPER NUMBER				

DATE MAILED: 09/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/731,520	Applicant(s) GAUCHER ET AL.	
	Examiner Ephrem Alemu	Art Unit 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 7 is objected to because of the following informalities: Claim 7, line 1, "the at least one radiating element" lacks antecedent basis. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 2, 3 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamamoto et al. (6,906,677).

Re claim 1, Yamamoto discloses an antenna comprising:

a substrate (31), and

a conductive via stub (i.e., antenna 13) formed in the substrate, wherein the conductive via stub (i.e., antenna 13) is a radiating element.

Re claims 2 and 9, Yamamoto further discloses a ground plane (11) being formed on a surface of the substrate (31); wherein the substrate (31) is comprised of a dielectric material or a semiconductor material (Fig. 11-14; Col. 15, lines 36-42; Col. 16, line 48- Col. 17, line 8).

Re claim 3, Yamamoto further shows the antenna (13) being an omni-directional antenna or a directional antenna (Fig. 13).

Art Unit: 2821

4. Claims 1-3, 7-17, 20 and 22-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Aoki (6,639,299).

Re claims 1-3, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 20, 22, 23, 24 and 25, Aoki discloses an integrated communications device (i.e., semiconductor device) (Figs. 1-3, 14-19) comprising:

an IC (integrated circuit) chip (i.e., circuit element formed in an integrated manner on substrate 1) (Figs. 1-9); and

an antenna (i.e., inverted F-shaped antenna) bonded to the IC chip (i.e., circuit element formed in an integrated manner on substrate 1) (Figs. 1-9; Col. 4, line 10- Col. 5, line 3; Col. 6, lines 23-47; Col. 12, lines 16-26; Col. 13, lines 17-60; wherein the antenna is an omni-directional antenna or a directional antenna), the antenna (i.e., antenna portion 21) comprising:

a dielectric substrate (i.e., encapsulating film 7) (Figs. 1-9; wherein the dielectric layer of the antenna acts as a cover for the integrated device (i.e., circuit element formed in an integrated manner on substrate 1));

at least one radiating element (i.e., inverted F-shaped antenna) comprising conductive via stub (i.e., posts 6A) formed in the substrate (7) (Figs. 1-9; Col. 4, lines 30-67; wherein the at least one radiating element of the antenna further comprises a hat element (i.e., conductive layer 8) formed on the conductive via stub (i.e., posts 6A) opposite the ground plane (i.e., grounding layer 5-1));

a plurality of patterned layers (i.e., conductive layers 5, 2) comprising a ground plane (i.e., grounding layer 5-1) formed on a surface of the substrate (7) of the antenna (i.e., inverted F-shaped antenna); an insulation layer (i.e., protective film 4) formed on the ground plane (i.e., grounding layer 5-1); the plurality of patterned layers (i.e., conductive layers 5, 2) formed

Art Unit: 2821

between the antenna (i.e., inverted F-shaped antenna) and IC chip (i.e., communication portion 27) for providing electrical interconnections (Figs. 1-9; Col. 1, line 64- Col. 2, line 4; Col. 4, line 30- Col. 2, lines 56-64; Col. 5, line 18; Col. 9, lines 7-21; wherein the IC chip (i.e., circuit element formed in an integrated manner on substrate 1) comprises a transceiver, a receiver, or a transmitter; wherein a grounding via (6A) is provided for ground connections between the IC chip (i.e., circuit element formed in an integrated manner on substrate 1) and the ground plane (i.e., grounding layer 5-1) of the antenna.).

Re claims 26-33 and 34-38, given Aoki's integrated communications device (i.e., semiconductor device) as described above in claims 1-3, 10, 11, 12, 13, 14, 15, 16, 17, 20, 22, 23, 24 and 25, the method for constructing an antenna and/or an integrated communication apparatus as claimed in claims 26-33 and/or 34-38 is inevitable.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4, 5, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki (6,639,299).

Re claims 4, 5, 18 and 19, although, Aoki does not mention an impedance matching network, Aoki discloses an insulation layer (i.e., protective film 4) formed on the ground planes (i.e., conductive layers 5) and a patterned conductive layer (i.e., conductive layers 2) formed on

Art Unit: 2821

the insulation layer (i.e., protective film 4), which would have been an obvious matching network for the purpose of matching the impedance of the antenna and the integrated circuit.

7. Claims 6 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki (6,639,299) in view of The ARRL antenna book (pages 2-24 to 2-25 submitted previously).

Re claims 6 and 21, Takahashi discloses the claimed limitations as described above in claims 1 and 12, except the antenna having resonant frequency of about 20 GHz.

However, The ARRL antenna book discloses that any antenna design can be scaled in size for use in another frequency.

It would have been within a skill of an artisan at the time the invention was made to scale the size of Aoki's antenna as taught in the ARRL antenna book for the purpose of operating the antenna in about 20 GHz or greater.

Response to Arguments

8. Applicant's arguments with respect to claims 1-38 have been considered but are moot in view of the new grounds of rejection.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ephrem Alemu whose telephone number is (571) 272-1818. The examiner can normally be reached on M-F 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P Callahan can be reached on (571) 272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2821

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EA
9/18/06



TUYET VO
PRIMARY EXAMINER